

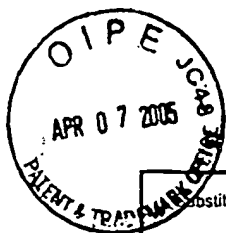
<b>Substitute for form 1449A&amp;B/PTO</b> <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		<b>Complete if Known</b>			
		Application Number	09/928,590		
		Filing Date	August 13, 2001		
		First Named Inventor	Spence, Charles F.		
		Art Unit	1753		
		Examiner Name	Jeffrey Thomas Barton		
Sheet	1	of	5	Attorney Docket Number	20174C-000620US

U.S. PATENT DOCUMENTS+					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number Kind Code <sup>2</sup> (if known)			
	0001	US-6,221,654	04-24-01	Quake et al.	
	0002	US-5,932,100	08-03-99	Yager et al.	
	0003	US-5,922,591	07-13-99	Anderson et al.	
	0004	US-5,904,824	05-18-99	Oh	
	0005	US-5,885,470	03-23-99	Parce et al.	
	0006	US-5,880,071	03-09-99	Parce et al.	
	0007	US-5,869,004	02-09-99	Parce et al.	
	0008	US-5,856,174	01-05-99	Lipshutz et al.	
	0009	US-5,852,495	12-22-98	Parce	
	0010	US-5,837,200	11-17-98	Diessel et al.	
	0011	US-5,800,690	09-01-98	Chow et al.	
	0012	US-5,757,482	05-26-98	Fuchs et al.	
	0013	US-5,750,015	05-12-98	Soane et al.	
	0014	US-5,726,751	03-10-98	Altendorf et al.	
	0015	US-5,726,404	03-10-98	Brody et al.	
	0016	US-5,716,852	02-10-98	Yager et al.	
	0017	US-5,702,618	12-30-97	Saaski et al.	
	0018	US-5,681,484	10-28-97	Zanzucchi et al.	
	0019	US-5,661,222	08-26-97	Hare	
	0020	US-5,646,039	07-08-97	Northrup et al.	
	0021	US-5,641,400	06-24-97	Kaltenbach et al.	
	0022	US-5,639,423	06-17-97	Northrup et al.	
	0023	US-5,637,469	06-10-97	Wilding et al.	
	0024	US-5,632,876	05-27-97	Zanzucchi et al.	
	0025	US-5,589,136	12-31-96	Northrup et al.	
	0026	US-5,580,523	12-03-96	Bard	
	0027	US-5,571,410	11-05-96	Swedberg et al.	
	0028	US-5,558,998	09-24-96	Hammond et al.	
	0029	US-5,512,131	04-30-96	Kumar et al.	

Examiner Signature		Date Considered	4/14/06
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PTO/SB/08A&amp;B (08-03)

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			Examiner Name	Jeffrey Thomas Barton	
			Attorney Docket Number	20174C-000620US	
Sheet	2	of	5		

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		Number	Kind Code <sup>2</sup> (if known)			
JS	0030	US-5,500,071		03-19-96	Kaltenbach et al.	
	0031	US-5,498,392		03-12-96	Wilding et al.	
	0032	US-5,486,335		01-23-96	Wilding et al.	
	0033	US-5,454,472		10-03-95	Benecke et al.	
	0034	US-5,452,878		09-26-95	Gravensen et al.	
	0035	US-5,417,235		05-23-95	Wise et al.	
	0036	US-5,376,252		12-27-94	Ekstrom et al.	
	0037	US-5,304,487		04-19-94	Wilding et al.	
	0038	US-5,271,724		12-21-93	van Lintel	
	0039	US-5,164,598		11-17-92	Hillman et al.	
	0040	US-5,140,161		08-18-92	Hillman et al.	
	0041	US-5,126,022		06-30-92	Soane et al.	
	0042	US-5,032,381		07-16-91	Bronstein et al.	
	0043	US-4,963,498		10-16-90	Hillman et al.	
	0044	US-4,936,465		06-26-90	Zold	
	0045	US-4,908,112		03-13-90	Pace	
	0046	US-4,786,165		11-22-88	Yamamoto et al.	
	0047	US-4,675,300		06-23-87	Zare et al.	
	0048	US-4,585,209		04-29-86	Aine et al.	
	0049	US-4,581,624		04-08-86	O'Connor	
	0050	US-3,984,307		10-05-76	Kamentsky et al.	
	0051	US-3,560,754		02-02-71	Kamentsky	
	0052	US-2,656,508		10-20-53	Coulter	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
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Examiner Signature					Date Considered	4/14/00		

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				Examiner Name	Jeffrey Thomas Barton
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JS	0065	GB	2264496		01-09-93			<input type="checkbox"/>

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
JS	0066	J. Affholter and F. Arnold, "Engineering a Revolution," <i>Chemistry in Britain</i> , Apr. 1999, p. 48.	
	0067	Angell et al., <i>Scientific American</i> 248:44-55 (1983).	
	0068	F. H. Arnold, <i>Acct. Chem. Research</i> 31, 125-131 (1998).	
	0069	A. Ashkin, J. M. Dziedzic, <i>Nature</i> 330, 769 (1987).	
	0070	A. Ashkin, J. M. Dziedzic, <i>Science</i> 235, 1517 (1987).	
	0071	Ballantyne, J.P., et al., <i>J. Vac. Sci. Technol.</i> 10:1094 (1973).	
	0072	Bein, Thomas, Efficient Assays for Combinatorial Methods for the Discovery of Catalysts, <i>Angew. Chem. Int. Ed.</i> 38:3, 323-26 (1999).	
JS	0073	T. N. Buican, M. J. Smyth, H. A. Verissman, <i>Applied Optics</i> 26, 5311 (1987).	

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APR 07 2005

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PTO/SB/05A&amp;B (08-03)

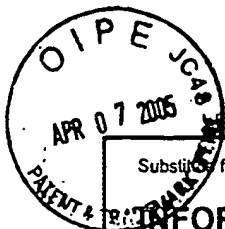
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		Examiner Name	Jeffrey Thomas Barton
Sheet 4	of 5	Attorney Docket Number	20174C-000620US

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JS	0074	Castro, A., et al., <i>Anal. Chem.</i> 85:849-852 (1993).	
	0075	Chou, Hou-Pu et al., <i>Proc. Natl. Acad. Sci. USA</i> , 96:11-13, Jan. 1999.	
	0076	P. J. Crosland-Taylor, <i>Nature (London)</i> 171, 37 (1953).	
	0077	S. Fiedler, et al. "Dielectrophoretic Sorting of Particles and Cells in a Microsystem" <i>Analytical Chemistry</i> 70, 1909-1915 (1998).	
	0078	M. J. Fulwyer, <i>Science</i> 156, 910 (1974).	
	0079	Goodwin, P.M., et al., <i>Nucleic Acids Research</i> 21(4):803-806 (1993).	
	0080	Hanes, J. & Pluckthun A. <i>Proc. Natl. Acad. Sci., USA</i> 94, 4937 (1997).	
	0081	D.J. Harrison et al., <i>Science</i> , 261: 895 (1993).	
	0082	Hoffmuller, U. & J. Schneider-Mergener, <i>Angew. Chemie. Int. Ed.</i> 37, 3241-3243 (1998).	
	0083	Jermutus, L., L. A. Ryabova & A. Pluckthun, <i>Curr. Opin. Biotechnol</i> 9, 534-548 (1998).	
	0084	L. A. Kamensky, M. R. Melamed, H. Derman, <i>Science</i> 150, 630 (1965).	
	0085	M.U. Kopp et al., <i>Science</i> , 280: 1046 (1998).	
	0086	Krutenat, R.C., Kirk-Othmer Concise Encyclopedia of Chemical Technology, John Wiley & Sons, New York (1985), pp. 749-752.	
	0087	Paul C.H. Li et al, "Transport Manipulation, and Reaction of Biological Cells On-Chip Using Electrokinetic Effects" <i>Analytical Chemistry</i> vol. 69, No. 8, pp. 1564-1568, Apr. 15, 1999.	
	0088	Manz et al., <i>Trends in Analytical Chemistry</i> 10: 144-149 (1991).	
	0089	A. Moldavan, <i>Science</i> 80(2069), 188 (1934).	
	0090	J. P. Nolan, L. A. Sklar, <i>Nature Biotechnology</i> 16, 633 (1998).	
	0091	Roberts, R. W. & Szostak, J. W. <i>Proc. Natl. Acad. Sci USA</i> 94, 12297-12302 (1997).	
	0092	L. A. Sklar, <i>Proc. SPIE</i> 3256, 144 (1998).	
0093	Stemmer, W. P. C. <i>Nature</i> , 370, 389 (1994).		
0094	R. Sweet, "Flow Sorters for Biologic Cells." In: <i>Flow Cytometry and Sorting</i> , Melamed et al., eds. John Wiley & Sons: New York, pp. 177-189 (1979).		
JS	0095	Tawfik, D. and Griffiths, A <i>Nat. Biotechnol.</i> 16, 656 (1998).	

Examiner Signature		Date Considered	4/14/06
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		First Named Inventor	Spence, Charles F.		
		Art Unit	1753		
		Examiner Name	Jeffrey Thomas Barton		
Sheet	5	of	5	Attorney Docket Number	20174C-000620US

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Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
JS	0096	Thompson, L.F., "Introduction to Lithography", ACS Symposium Series 219:1-13, (1983).	
J	0097	Todd et al., "Cell Electrophoresis." In: <i>Flow Cytometry and Sorting</i> . Melamed et al., eds. John Wiley & Sons: New York, pp. 217-229 (1979).	
J	0098	M. A. Van Dilla, T. T. Trujillo, P. F. Mullaney, <i>Science</i> 163, 1213 (1969).	
JS	0099	Xia et al., <i>Ange. Chem. Int. Ed.</i> , 37:550-575 (1998).	

Examiner Signature		Date Considered	4/14/06
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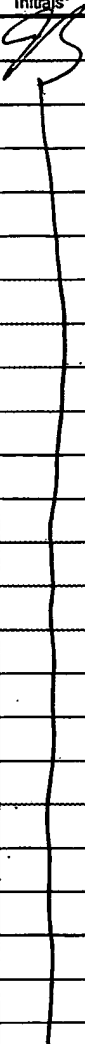
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PTO/SB/08A (07-05)

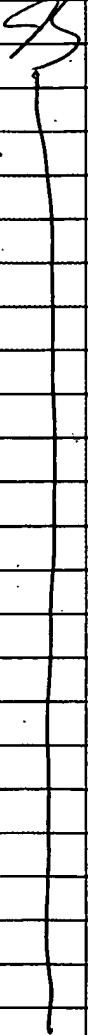

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		Examiner Name	Jeffrey Thomas Barton		
Sheet	1	of	13	Attorney Docket Number	20174C-000620US

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Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patantee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number Kind Code <sup>2</sup> (if known)			
	A1	US-3,570,515	03-16-1971	Kinner	
	A2	US-3,747,628	07-24-1973	Holster et al.	
	A3	US-4,046,159	09-06-1977	Pegourie	
	A4	US-4,119,368	10-10-1978	Yamakazi	
	A5	US-4,153,855	05-08-1979	Feingold	
	A6	US-4,245,673	01-20-1981	Bouteille et al.	
	A7	US-4,434,704	03-06-1984	Surjaatmadja	
	A8	US-4,898,582	02-06-1990	Faste	
	A9	US-4,992,312	02-12-1991	Frisch	
	A10	US-5,085,562	02-04-1992	Van Lintel	
	A11	US-5,088,515	02-18-1992	Kamen	
	A12	US-5,096,388	03-17-1992	Weinberg	
	A13	US-5,126,115	06-30-1992	Fujita et al.	
	A14	US-5,143,854	09-01-1992	Pirrung et al.	
	A15	US-5,164,558	11-17-1992	Huff et al.	
	A16	US-5,171,132	12-15-1992	Miyazaki	
	A17	US-5,224,843	07-06-1993	Van Lintel	
	A18	US-5,259,737	11-09-1993	Kamisuki et al.	
	A19	US-5,265,327	11-30-1993	Faris et al.	
	A20	US-5,290,240	03-01-1994	Horres, Jr.	
	A21	US-5,336,062	08-09-1994	Richter	
	A22	US-5,346,372	09-13-1994	Naruse et al.	
	A23	US-5,375,979	12-27-1994	Trah	
	A24	US-5,400,741	03-28-1995	DeTitta et al.	
	A25	US-5,423,287	06-13-1995	Usami et al.	

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Substitute for form 1448A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)			<b>Complete if Known</b>		
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	A26	US-5,434,049	07-18-1995	Okuno et al.	
	A27	US-5,525,464	06-11-1996	Drmanac et al.	
	A28	US-5,529,465	06-25-1996	Zengerle et al.	
	A29	US-5,593,130	01-14-1997	Hansson et al.	
	A30	US-5,642,015	06-24-1997	Whitehead et al.	
	A31	US-5,659,171	08-19-1997	Young et al.	
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	A34	US-5,705,018	01-06-1998	Hartley	
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	A36	US-5,775,371	07-07-1998	Pan et al.	
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	A38	US-5,807,522	09-15-1998	Brown et al.	
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	A43	US-5,863,801	01-26-1999	Southgate et al.	
	A44	US-5,875,817	03-02-1999	Carter	
	A45	US-5,876,187	03-02-1999	Afromowitz	
A46	US-5,932,799	08-03-1999	Moles		
A47	US-5,942,443	08-24-1999	Parce et al.		
A48	US-6,007,309	12-28-1999	Hartley		
A49	US-6,043,080	03-28-2000	Lipshutz et al.		
	A50	US-6,117,634	09-12-2000	Langmore et al.	

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		Number Kind Code <sup>2</sup> (if known)			
JS	A51	US-6,123,769	09-26-2000	Sanjoh	
	A52	US-6,155,282	12-05-2000	Zachary et al.	
	A53	US-6,174,365 B1	01-16-2001	Sanjoh	
	A54	US-6,345,502 B1	02-12-2002	Tai et al.	
	A55	US-6,540,895 B2	04-01-2003	Quake et al.	
	A56	US-6,833,242 B2	12-21-2004	Quake et al.	
JS	A57	US-2005-0123947 A1	06-09-2005	Quake et al.	

Examiner Signature	<i>Jeffrey Barton</i>	Date Considered	4/14/06
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Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)				<b>Complete if Known</b>	
				Application Number	09/928,590
				Filing Date	August 13, 2001
				First Named Inventor	Charles F. Spence
				Art Unit	1753
				Examiner Name	Jeffrey Thomas Barton
Sheet	4	of	13	Attorney Docket Number	20174C-000620US


FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>2</sup>	Number <sup>3</sup>	Kind Code <sup>4</sup> (if known)				
JS	B1	EP	0 592 094	A2	04-13-1994	International Business Machines Corporation		<input type="checkbox"/>
	B2	EP	0 703 364	A1	03-27-1996	Fraunhofer-Gesellschaft Zur Förderung Der Angewandten Forschung E.V.		<input type="checkbox"/>
	B3	EP	0 706 004	A2	04-10-1996	Bayer Corporation		<input type="checkbox"/>
	B4	EP	0 778 351	B1	06-11-1997	Hitachi, Ltd.		<input type="checkbox"/>
	B5	EP	0 779 436	A2	06-18-1997	Frank T. Hartley		<input type="checkbox"/>
	B6	EP	0 829 360	A2	03-18-1998	Xerox Corporation		<input type="checkbox"/>
	B7	EP	0 845 603	A1	06-03-1998	Xerox Corporation		<input type="checkbox"/>
	B8	EP	0 999 055	A2	05-10-2000	Samsung Electronics Co., Ltd.		<input type="checkbox"/>
	B9	GB	2 155 152	A	09-18-1985	Allied Corporation		<input type="checkbox"/>
	B10	GB	2 264 296	A	08-25-1993	Zortech International Limited		<input type="checkbox"/>
	B11	GB	2 308 460	A	06-25-1997	Daewoo Electronics Co., Ltd.		<input type="checkbox"/>
	B12	WO	95/33853	A1	12-14-1995	University Of Tennessee Research Corporation		<input type="checkbox"/>
	B13	WO	97/38300	A1	10-16-1997	Soane Biosciences		<input type="checkbox"/>
	B14	WO	98/07069	A1	02-19-1998	The Regents Of The University Of Michigan		<input type="checkbox"/>
	B15	WO	99/00655	A2	01-07-1999	Immunetics		<input type="checkbox"/>
	B16	WO	99/04361	A1	01-28-1999	Diversified Scientific, Inc.		<input type="checkbox"/>
JS	B17	WO	99/17093	A1	04-08-1999	The Regents Of The University Of Michigan		<input type="checkbox"/>

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		Country Code <sup>2</sup>	Number <sup>3</sup>	Kind Code <sup>5</sup> (if known)				
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	B19	WO	99/52633	A1	10-21-1999	Lumenal Technologies, L.P.		<input type="checkbox"/>
	B20	WO	00/00678	A1	01-06-2000	University Of Washington		<input type="checkbox"/>
	B21	WO	00/43748	A1	07-27-2000	YSI Incorporated		<input type="checkbox"/>
JS	B22	WO	00/60345	A1	10-12-2000	University Of Alabama At Birmingham Research Foundation		<input type="checkbox"/>

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JS	C1	"Chapter 9: Microfluidic Devices," Micromachined Transducers Sourcebook, pp. 779-882, 1998	<input type="checkbox"/>
	C2	AHN, CHONG H. et al., "Fluid Micropumps Based On Rotary Magnetic Actuators," Proceedings of 1995 IEEE Micro Electro Mechanical Systems Workshop (MEMS '95), Amsterdam, Netherlands, pp. 408-412, January 29 - February 2, 1995	<input type="checkbox"/>
	C3	ANDERSON, ROLFE C. et al., "Microfluidic Biochemical Analysis System," Transducers '97, 1997 International Conference on Solid-State Sensors and Actuators, Chicago, Illinois, pp. 477-480, June 16-19, 1997	<input type="checkbox"/>
	C4	ARMANI, DENIZ et al., "Re-Configurable Fluid Circuits By PDMS Elastomer Micromachining," IEEE Int. Conf. Micro Electro Mech. Syst. Tech. Digest, Vol. 12, pp. 222-227, 1999	<input type="checkbox"/>
	C5	BENARD, W. L. et al., "A Titanium-Nickel Shape-Memory Alloy Actuated Micropump," Transducers '97, 1997 International Conference on Solid-State Sensors and Actuators, Chicago, Illinois, pp. 361-364, June 16-19, 1997	<input type="checkbox"/>
	C6	BLOOMSTEIN, T. M. et al., "Laser-Chemical Three-Dimensional Writing For Microelectromechanics And Application To Standard-Cell Microfluidics," J. Vac. Sci. Technol. B, Vol. 10, No. 6, pp. 2671-2674, November 1992	<input type="checkbox"/>
	C7	BRECHTEL, R. et al., "Control Of The Electroosmotic Flow By Metal-Salt-Containing Buffers," Journal of Chromatography A, Vol. 716, pp. 97-105, 1995	<input type="checkbox"/>
	C8	BRYZEK, JANUSZ et al., "Micromachines On The March", IEEE Spectrum, Vol. 31, No. 5, pp. 20-31, May 1994	<input type="checkbox"/>
	C9	BUCHAILLOT, LIONEL et al., "Silicon Nitride Thin Films Young's Modulus Determination By An Optical Non Destructive Method," Jpn. J. Appl. Phys., Vol. 36, Part 2, No. 6B, pp. L794-L797, June 15, 1997	<input type="checkbox"/>
	C10	BUDOWLE, BRUCE et al., "Analysis Of The VNTR Locus DIS80 By The PCR Followed By High-Resolution PAGE," Am. J. Hum. Genet., Vol. 48, pp. 137-144, 1991	<input type="checkbox"/>
	C11	BURBAUM, JONATHAN J. et al., "New Technologies For High-Throughput Screening," Current Opinion in Chemical Biology, Vol. 1, pp. 72-78, 1997	<input type="checkbox"/>
	C12	BUSCH, J. et al., "Methods For The Differentiation Of Microorganisms, Journal of Chromatography B, Vol. 722, pp. 263-278, 1999	<input type="checkbox"/>
	C13	CAI, WEIWEN, et al., "High-Resolution Restriction Maps Of Bacterial Artificial Chromosomes Constructed By Optical Mapping," Proc. Natl. Acad. Sci. USA, Vol. 95, pp. 3390-3395, March 1998	<input type="checkbox"/>
	C14	CHOU, HOU-PU et al., "Disposable Microdevices For DNA Analysis And Cell Sorting," Proc. Solid-State Sensor and Actuator Workshop, Hilton Head, South Carolina, pp. 11-14, June 8-11, 1998	<input type="checkbox"/>
	C15	CHOU, HOU-PU et al., "Microfabricated Devices For Sizing DNA And Sorting Cells," Micro- and Nanofabricated Structures and Devices for Biomedical Environmental Applications, Proceedings of SPIE, Vol. 3258, pp. 181-187, 1998	<input type="checkbox"/>


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			First Named Inventor	Charles F. Spence	
			Art Unit	1753	
			Examiner Name	Jeffrey Thomas Barton	
Sheet	7	of	13	Attorney Docket Number	20174C-000620US



NON PATENT LITERATURE DOCUMENTS				
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>	
JS	C16	DAVILA, HERMAN MORENO, "Molecular And Functional Diversity Of Voltage-Gated Calcium Channels," Annals of the New York Academy of Sciences, Vol. 868, pp. cover, 102-117, 1999	<input type="checkbox"/>	
	C17	DELAMARCHE, EMMANUEL et al., "Patterned Delivery Of Immunoglobulins To Surfaces Using Microfluidic Networks," Science, Vol. 276, pp. 779-781, May 2, 1997	<input type="checkbox"/>	
	C18	DUFFY, DAVID C. et al., "Patterning Electroluminescent Materials With Feature Sizes As Small As 5µm Using Elastomeric Membranes As Masks For Dry Lift-Off," Advanced Materials, Vol. 11, No. 7, pp. 546-552, 1999	<input type="checkbox"/>	
	C19	DUFFY, DAVID C. et al., "Rapid Prototyping Of Microfluidic Switches In Poly(dimethyl siloxane) And Their Actuation By Electro-Osmotic Flow," J. Micromech. Microeng., Vol. 9, pp. 211-217, 1999	<input type="checkbox"/>	
	C20	DUFFY, DAVID C. et al., "Rapid Prototyping Of Microfluidic Systems In Poly(dimethylsiloxane)," Analytical Chemistry, Vol. 70, No. 23, pp. 4974-4984, December 1, 1998	<input type="checkbox"/>	
	C21	EFFENHAUSER, CARLO S. et al., "Integrated Capillary Electrophoresis On Flexible Silicone Microdevices: Analysis Of DNA Restriction Fragments And Detection Of Single DNA Molecules On Microchips," Analytical Chemistry, Vol. 69, No. 17, pp. 3451-3457, September 1, 1997	<input type="checkbox"/>	
	C22	EFFENHAUSER, CARLO S. et al., "Integrated Chip-Based Capillary Electrophoresis," Electrophoresis, Vol. 18, pp. 2203-2213, 1997	<input type="checkbox"/>	
	C23	FAHRENBERG, J. et al., "A Microvalve System Fabricated By Thermoplastic Molding," J. Micromech. Microeng., Vol. 5, pp. 169-171, 1995	<input type="checkbox"/>	
	C24	FETTINGER, J. C. et al., "Stacked Modules For Micro Flow Systems In Chemical Analysis: Concept And Studies Using An Enlarged Model," Sensors and Actuators B, Vol. 17, pp. 19-25, 1993	<input type="checkbox"/>	
	C25	FOLCH, A. et al., "Molding Of Deep Polydimethylsiloxane Microstructures For Microfluidics And Biological Applications," Journal of Biomechanical Engineering, Vol. 121, pp. 28-34, February 1999	<input type="checkbox"/>	
	C26	GALAMBOS, PAUL et al., "Electrical And Fluidic Packaging Of Surface Micromachined Electro-Microfluidic Devices," 8 pages, no date	<input type="checkbox"/>	
	C27	GASS, V. et al., "Integrated Flow-Regulated Silicon Micropump," Sensors and Actuators A, Vol. 43, pp. 335-338, 1994	<input type="checkbox"/>	
	C28	GERLACH, TORSTEN, "Pumping Gases By A Silicon Micro Pump With Dynamic Passive Valves," Transducers '97, 1997 International Conference on Solid-State Sensors and Actuators, Chicago, Illinois, pp. 357-360, June 16-19, 1997	<input type="checkbox"/>	
	C29	GIUSTI, ALAN et al., "Application Of Deoxyribonucleic Acid (DNA) Polymorphisms To The Analysis Of DNA Recovered From Sperm," Journal of Forensic Sciences, Vol. 31, No. 2, pp. 409-417, April 1986	<input type="checkbox"/>	
	JS	C30	GOLL, C. et al., "Microvalves With Bistable Buckled Polymer Diaphragms," J. Micromech. Microeng., Vol. 6, pp. 77-79, 1996	<input type="checkbox"/>

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Examiner Name	Jeffrey Thomas Barton				
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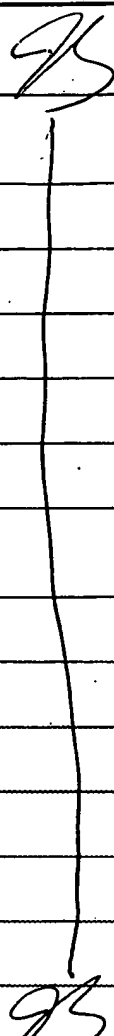
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	C31	GONZALEZ, JESUS E. et al., "Improved Indicators Of Cell Membrane Potential That Use Fluorescence Resonance Energy Transfer," Chemistry & Biology, Vol. 4, No. 4, pp. 269-277, April 1997	<input type="checkbox"/>
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	C33	GUÉRIN, L. J. et al., "Simple And Low Cost Fabrication Of Embedded Micro-Channels By Using A New Thick-Film Photoplastic," Transducers '97, 1997 International Conference on Solid-State Sensors and Actuators, Chicago, Illinois, pp. 1419-1422, June 18-19, 1997	<input type="checkbox"/>
	C34	HENION, JACK et al., "Capillary Electrophoresis/Mass Spectrometry: From One Meter Capillaries To Chip-Based Devices," 2 pages, 1999	<input type="checkbox"/>
	C35	HERMANSON, Greg T. et al., "Chapter 2 - Activation Methods," Immobilized Affinity Ligand Techniques, Academic Press, pp. 2 cover pages, 51-136, 1992	<input type="checkbox"/>
	C36	HICKS, JENNIFER, "Genetics And Drug Discovery Dominate Microarray Research," R&D Magazine, pp. 28-33, February 1999	<input type="checkbox"/>
	C37	HORNBECK, LARRY J. et al., "Bistable Deformable Mirror Device," Spatial Light Modulators and Applications 1988 Technical Digest Series, Vol. 8, Postconference Edition, pp. cover, 107-110, June 15-17, 1988	<input type="checkbox"/>
	C38	IKUTA, KOJI et al., "Three Dimensional Micro Integrated Fluid Systems (MIFS) Fabricated By Stereo Lithography," IEEE, pp. 1-6, 1994	<input type="checkbox"/>
	C39	JACOBSON, KEN et al., "International Workshop On The Application Of Fluorescence Photobleaching Techniques To Problems In Cell Biology," Federation Proceedings, Vol. 42, No. 1, pp. 72-79, January 1983	<input type="checkbox"/>
	C40	JACOBSON, STEPHEN C. et al., "High-Speed Separations On A Microchip," Analytical Chemistry, Vol. 66, No. 7, pp. 1114-1118, April 1, 1994	<input type="checkbox"/>
	C41	JEFFREYS, ALEC J. et al., "Hypervariable 'Minisatellite' Regions In Human DNA," Nature, Vol. 314, pp. 67-73, March 7, 1985	<input type="checkbox"/>
	C42	JERMAN, HAL, "Electrically-Activated, Normally-Closed Diaphragm Valves," Transducers '91, 1991 International Conference on Solid-State Sensors and Actuators, pp. cover, 1045-1048, 1991	<input type="checkbox"/>
	C43	JU, LI-YA et al., "Application Of Silver Staining To The Rapid Typing Of The Polymorphism Of HLA-DQ Alleles By Enzymatic Amplification and Allele-Specific Restriction Fragment Length Polymorphism," Electrophoresis, Vol. 12, pp. 270-273, 1991	<input type="checkbox"/>
	C44	JUNG, D. R. et al., "Chemical And Physical Interactions At Metal/Self-Assembled Organic Monolayer Interfaces," pp. 1-54, 1994	<input type="checkbox"/>

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	C45	KANTER, EVAN et al., "Analysis Of Restriction Fragment Length Polymorphisms In Deoxyribonucleic Acid (DNA) Recovered From Dried Bloodstains," Journal of Forensic Sciences, Vol. 31, No. 2, pp. 403-408, April 1986	<input type="checkbox"/>
	C46	KAPUR, RAVI et al., "Fabrication And Selective Surface Modification Of 3-Dimensionally Textured Biomedical Polymers From Etched Silicon Substrates," Journal of Biomedical Materials Research, Vol. 33, pp. 205-216, 1996	<input type="checkbox"/>
	C47	KELLER, RICHARD A. et al., "Single-Molecule Fluorescence Analysis In Solution," Applied Spectroscopy, Vol. 50, No. 7, pp. 12A-30A, July 1996	<input type="checkbox"/>
	C48	KHOO, MELVIN et al., "A Novel Micromachined Magnetic Membrane Microfluid Pump," pp. 1-4, no date	<input type="checkbox"/>
	C49	KIM, ENOCH et al., "Micromolding In Capillaries: Applications In Materials Science," J. Am. Chem. Soc., Vol. 118, No. 24, pp. 5722-5731, 1996	<input type="checkbox"/>
	C50	KIM, ENOCH et al., "Polymer Microstructures Formed By Moulding In Capillaries," Nature, Vol. 376, pp. 581-584, August 17, 1995	<input type="checkbox"/>
	C51	KUHN, LAWRENCE et al., "Silicon Charge Electrode Array For Ink Jet Printing," IEEE Transactions on Electron Devices, Vol. ED-25, No. 10, pp. 1257-1260, October 1978	<input type="checkbox"/>
	C52	KUMAR, AMIT et al., "Features Of Gold Having Micrometer To Centimeter Dimensions Can Be Formed Through A Combination Of Stamping With An Elastomeric Stamp And An Alkanethiol 'Ink' Followed By Chemical Etching," Appl. Phys. Lett., Vol. 63, No. 14, pp. 2002-2004, October 4, 1993	<input type="checkbox"/>
	C53	KUMAR, AMIT et al., "Patterning Self-Assembled Monolayers: Applications In Materials Science," Langmuir, Vol. 10, pp. 1498-1511, 1994	<input type="checkbox"/>
	C54	LAMMERINK, T. S. J. et al., "Modular Concept For Fluid Handling Systems," IEEE, pp. 389-394, 1996	<input type="checkbox"/>
	C55	LESSARD, GUILLAUME A. et al., "A Scanning Apertureless Fluorescence Microscope," 8 pages, no date	<input type="checkbox"/>
	C56	LEVINE, LEANNA M. et al., "Measurement Of Specific Protease Activity Utilizing Fluorescence Polarization," Analytical Biochemistry, Vol. 247, pp. 83-88, 1997	<input type="checkbox"/>
	C57	LIN, L. Y. et al., "Free-Space Micromachined Optical Switches For Optical Networking," IEEE Journal of Selected Topics in Quantum Electronics, Vol. 5, No. 1, pp. 4-9, January 1999	<input type="checkbox"/>
	C58	LÖTTERS, J C et al., "The Mechanical Properties Of The Rubber Elastic Polymer Polydimethylsiloxane For Sensor Applications," J. Micromech. Microeng., Vol. 7, pp. 145-147, 1997	<input type="checkbox"/>
	C59	LUCY, CHARLES A. et al., "Characterization Of The Cationic Surfactant Induced Reversal Of Electroosmotic Flow In Capillary Electrophoresis," Anal. Chem., Vol. 68, pp. 300-305, 1996	<input type="checkbox"/>

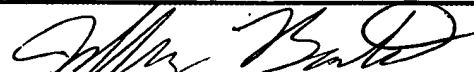
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JS	C60	MARSHALL, SID, "Fundamental Changes Ahead For Lab Instrumentation," R&D Magazine, 5 pages, February 1999	<input type="checkbox"/>
	C61	MARSILI, RAY, "Lab-On-A-Chip Poised To Revolutionize Sample Prep," R&D Magazine, 5 pages, February 1999	<input type="checkbox"/>
	C62	MAULE, JOHN, "Pulsed-Field Gel Electrophoresis," Molecular Biotechnology, Vol. 9, pp. 107-126, 1998	<input type="checkbox"/>
	C63	MULLER, RICHARD S. et al., "Surface-Micromachined Microoptical Elements And Systems," Proceedings of the IEEE, Vol. 86, No. 8, pp. 1705-1720, August 1998	<input type="checkbox"/>
	C64	MURRAY, VINCENT et al., "Detection Of Polymorphisms Using Thermal Cycling With A Single Oligonucleotide On A DNA Sequencing Gel," Human Mutation, Vol. 2, pp. 118-122, 1993	<input type="checkbox"/>
	C65	NAKAMURA, YUSUKE et al., "Variable Number Of Tandem Repeat (VNTR) Markers For Human Gene Mapping," Science, Vol. 235, pp. 1616-1622, March 27, 1987	<input type="checkbox"/>
	C66	OLSSON, ANDERS et al., "Simulation Studies Of Diffuser And Nozzle Elements For Valve-Less Micropumps," Transducers '97, 1997 International Conference on Solid-State Sensors and Actuators, Chicago, Illinois, pp. 1039-1042, June 16-19, 1997	<input type="checkbox"/>
	C67	O'REILLY, MARIE-ANNE J. et al., "The Technique Of Pulsed Field Gel Electrophoresis And Its Impact On Molecular Immunology," Journal of Immunological Methods, Vol. 131, pp. 1-13, 1990	<input type="checkbox"/>
	C68	PETHIG, RONALD et al., "Applications Of Dielectrophoresis In Biotechnology," Tibtech, Vol. 15, pp. 426-432, October 1997	<input type="checkbox"/>
	C69	PETTY, JEFFREY T. et al., "Characterization Of DNA Size Determination Of Small Fragments By Flow Cytometry," Anal. Chem., Vol. 67, pp. 1755-1761, 1995	<input type="checkbox"/>
	C70	QIN, DONG et al., "Elastomeric Light Valves," Adv. Mater., Vol. 9, No. 5, pp. 407-410, 1997	<input type="checkbox"/>
	C71	QIN, DONG et al., "Photolithography With Transparent Reflective Photomasks," J. Vac. Sci. Technol. B, Vol. 16, No. 1, pp. 98-103, January 1998	<input type="checkbox"/>
	C72	RAPP, R. et al., "LIGA Micropump For Gases And Liquids," Sensors and Actuators A, Vol. 40, pp. 57-61, January 1994	<input type="checkbox"/>
	C73	ROUHI, MAUREEN, "Sizing, Sorting DNA One Piece At A Time," C&EN, pp. 5-6, January 11, 1999	<input type="checkbox"/>
	C74	ROYLANCE, LYNN MICHELLE et al., "A Batch-Fabricated Silicon Accelerometer," IEEE Transactions on Electron Devices, Vol. ED-26, No. 12, pp. 1911-1917, December 1979	<input type="checkbox"/>
C75	SAMAD, AKHTAR et al., "Optical Mapping: A Novel, Single-Molecule Approach To Genomic Analysis," Genome Research, pp. 1-4, 1995	<input type="checkbox"/>	
JS	C76	Sandia National Laboratories, "Electro Microfluidic Dual In-Line Package (EMDIP)," 2 pages, no date	<input type="checkbox"/>


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				First Named Inventor	Charles F. Spence
				Art Unit	1753
				Examiner Name	Jeffrey Thomas Barton
Sheet	11	of	13	Attorney Docket Number	20174C-000620US

NON PATENT LITERATURE DOCUMENTS			
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JS	C77	SANJOH, AKIRA et al., "Spatiotemporal Protein Crystal Growth Studies Using Microfluidic Silicon Devices," Journal of Crystal Growth, Vol. 196, pp. 691-702, 1999	<input type="checkbox"/>
	C78	SCHUELLER, OLIVIER J. A. et al., "Fabrication Of Glassy Carbon Microstructures By Soft Lithography," Sensors and Actuators A, Vol. 72, pp. 126-139, 1999	<input type="checkbox"/>
	C79	SCHWARTZ, DAVID C. et al., "Optical Mapping Approaches To Molecular Genomics," Current Opinion in Biotechnology, Vol. 8, pp. 70-74, 1997	<input type="checkbox"/>
	C80	SEETHALA, RAMAKRISHNA et al., "A Fluorescence Polarization Competition Immunoassay For Tyrosine Kinases," Analytical Biochemistry, Vol. 255, pp. 257-262, 1998	<input type="checkbox"/>
	C81	SHOJI, SHUICHI, "Fluids For Sensor Systems," Topics in Current Chemistry, Vol. 194, pp. 163-188, 1998	<input type="checkbox"/>
	C82	SHOJI, SHUICHI et al., "Smallest Dead Volume Microvalves For Integrated Chemical Analyzing Systems," Transducers '91, 1991 International Conference on Solid-State Sensors and Actuators, San Francisco, California, pp. cover, 1052-1055, 1991	<input type="checkbox"/>
	C83	SMITS, J.G., "Piezoelectric Micropump With Three Valves Working Peristaltically," Sensors and Actuators, Vol. A21-A23, pp. 203-206, 1990	<input type="checkbox"/>
	C84	TATARI, ZOHREH et al., "HLA-Cw Allele Analysis By PCR-Restriction Fragment Length Polymorphism: Study Of Known And Additional Alleles," Proc. Natl. Acad. Sci. USA, Vol. 92, pp. 8803-8807, September 1995	<input type="checkbox"/>
	C85	TUFTE, O. N. et al., "Silicon Diffused-Element Piezoresistive Diaphragms," Journal of Applied Physics, Vol. 33, No. 11, pp. 3322-3327, November 1962	<input type="checkbox"/>
	C86	Ullmann's Encyclopedia of Industrial Chemistry, Sections 6 to 6.3, Topic: Carbon Black, Sixth Edition, 7 pages, 1999	<input type="checkbox"/>
JS	C87	VAN DE POL, F.C.M. et al., "A Thermo-Pneumatic Actuation Principle For A Microminiature Pump And Other Micromechanical Devices," Sensors and Actuators, Vol. 17, Nos. 1-2, pp. 139-143, May 3, 1989	<input type="checkbox"/>
	C88	VAN DE POL, F.C.M. et al., "Micro Liquid Handling Devices - A Review," Micro Systems Technologies, Vol. 90, pp. 799-805, 1990	<input type="checkbox"/>
	C89	VAN DEN BERG, A. et al., "Micro Total Analysis Systems," Proceedings of the $\mu$ TAS '94 Workshop, University of Twente, The Netherlands, 17 pages, November 21-22, 1994	<input type="checkbox"/>
	C90	VAN DILLA, MARVIN A. et al., "Chapter 2 - Introduction And Resume Of Flow Cytometry And Sorting," Flow Cytometry and Sorting, John Wiley & Sons, pp. 5 cover pages and 11-37, 1979	<input type="checkbox"/>
	C91	VERPOORTE, ELISABETH M. J. et al., "Three-Dimensional Micro Flow Manifolds For Miniaturized Chemical Analysis Systems," J. Micromech. Microeng., Vol. 7, pp. 246-256, 1994	<input type="checkbox"/>

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	C92	VIEIDER, CHRISTIAN et al., "A Pneumatically Actuated Micro Valve With A Silicon Rubber Membrane For Integration With Fluid Handling Systems," Transducers '95, 8th International Conference on Solid-State Sensors and Actuators and Eurosensors IX, Stockholm, Sweden, pp. 284-286, June 25-29, 1995	<input type="checkbox"/>
	C93	VOLKMUTH, W. D. et al., "DNA Electrodiffusion In A 2D Array Of Posts," Physical Review Letters, Vol. 72, No. 13, pp. 2117-2120, March 28, 1994	<input type="checkbox"/>
	C94	VOLKMUTH, W. D. et al., "DNA Electrophoresis In Microlithographic Arrays," Nature, Vol. 358, pp. 600-602, August 13, 1992	<input type="checkbox"/>
	C95	WASHIZU, MASAO et al., "Molecular Dielectrophoresis Of Biopolymers," IEEE Transactions on Industry Applications, Vol. 30, No. 4, pp. 835-843, July 1994	<input type="checkbox"/>
	C96	WILBUR, JAMES L. et al., "Lithographic Molding: A Convenient Route To Structures With Sub-Micrometer Dimensions," Adv. Mater., Vol. 7, No. 7, pp. 649-652, 1995	<input type="checkbox"/>
	C97	XIA, YOUNAN et al., "Complex Optical Surfaces Formed By Replica Molding Against Elastomeric Masters," Science, Vol. 273, pp. 347-349, July 19, 1996	<input type="checkbox"/>
	C98	XIA, YOUNAN et al., "Micromolding Of Polymers In Capillaries: Applications In Microfabrication," Chem. Mater., Vol. 8, No. 7, pp. 1559-1566, 1996	<input type="checkbox"/>
	C99	XIA, YOUNAN et al., "Reduction In The Size Of Features Of Patterned SAMs Generated By Microcontact Printing With Mechanical Compression Of The Stamp," Adv. Mater., Vol. 7, No. 5, pp. 471-473, 1995	<input type="checkbox"/>
	C100	XU, BING et al., "Making Negative Poisson's Ratio Microstructures By Soft Lithography," Adv. Mater., Vol. 11, No. 14, pp. 1186-1189, 1999	<input type="checkbox"/>
	C101	XU, XIANG et al., "Detection Of Programmed Cell Death Using Fluorescence Energy Transfer," Nucleic Acids Research, Vol. 26, No. 8, pp. 2034-2035, 1998	<input type="checkbox"/>
	C102	YANG, XING et al., "A Low Power MEMS Silicone/Parylene Valve," Solid-State Sensor and Actuator Workshop, Hilton Head Island, South Carolina, 4 pages, June 7-11, 1998	<input type="checkbox"/>
	C103	YANG, XING et al., "A MEMS Thermopneumatic Silicone Membrane Valve," IEEE 10th Annual International Workshop of Micro Electro Mechanical Systems, Nagoya, Japan, pp. cover, 114-118, January 26-30, 1997	<input type="checkbox"/>
	C104	YAZDI, NAVID et al., "Micromachined Inertial Sensors," Proceedings of IEEE, Vol. 86, No. 8, pp. 1640-1659, August 1998	<input type="checkbox"/>
	C105	YOUNG, A. M. et al., "Contoured Elastic-Membrane Microvalves For Microfluidic Network Integration," Journal of Biomechanical Engineering, Vol. 121, pp. 2-6, February 1999	<input type="checkbox"/>
	C106	ZENGERLE, R. et al., "A Micro Membrane Pump With Electrostatic Actuation," Micro Electro Mechanical Systems '92, Travemünde, Germany, pp. 19-24, February 4-7, 1992	<input type="checkbox"/>

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<i>JS</i>	C107	ZENGERLE, R. et al., "Performance Simulation Of Microminiaturized Membrane Pumps," 7th International Conference on Solid-State Sensors and Actuators, Yokohama, Japan, pp. 2 cover pages, 106-109, June 7-10, 1993	<input type="checkbox"/>

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